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ABSTRACT

Increased interest in interdisciplinary instruction in secondary schools has led to the development of different models. At one school in the Shenandoah Valley (Virginia) three designs evolved when teams of teachers took on nontraditional, integrated instruction as a goal. In general, integrated curriculum designs in secondary schools match one of six models: discipline-based (traditional), parallel disciplines, multidisciplinary, transdisciplinary, interdisciplinary, and integrated-day. At this high school, grade-9 teachers of English, science, and social studies were teamed in three groups of three. Each team was responsible for 60 to 75 students and had a 150-minute class period for team teaching. Team members had common planning time and eventually a large office space for planning work. The teams' approaches evolved over time, and eventually one team used a parallel style of integration, another used an interdisciplinary design, and a third used a transdisciplinary design. All three teams collected data and information on effectiveness. At the end of the year, teachers reported that they had learned about their colleagues's subjects, appreciated the long class time and its opportunities, and saw value in the holistic approach. Some had reservations about how much actual knowledge of the subjects or disciplines students had gained, even though they believed the students had gained leadership skills and developed socially. (JB)

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Models for Curriculum Integration in High School

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With increased emphasis on providing instruction so that students will readily make connections across the disciplines, understand the interrelationships among all areas of study, and understand the relevancy of what they study to their real lives, school personnel have been challenged to develop and implement approaches to integrate curriculum. The challenges have come from parents and other citizens as well as from some educational leaders.

Some secondary schools in the Shenandoah Valley Area of Virginia are experimenting with different approaches to integrate disciplines and address other concerns related to providing effective instruction for students. Many of the schools are trying some form of block scheduling to promote integration of the traditional subject disciplines as well as to increase learning time, increase motivation, and reduce discipline problems. The objective is to integrate the academic disciplines (i.e. English, math, science, and social studies) with one another and with technical education content and activities in the curriculum provided for students.

Integrated Curriculum Models

As efforts to integrate curriculum areas have increased and personnel at the different schools have implemented approaches to fit their schools' needs and resources relative to space, time and

staff, describing the various programs and approaches to parents and others has become more difficult. One effective way to communicate ideas about ways to integrate or combine content from the traditionally separate disciplines is to represent the ideas and approaches with conceptual diagrams as well as with word descriptions. Though a diagram seldom reflects all of the nuances and complexities of a particular approach, it provides a framework for understanding the approach. In real school settings, we seldom witness the implementation of instructional models and designs in a pure form or in their entirety. Instructional models and designs that are depicted by a diagram or two dimensional design, in reality, usually exist as hybrid programs or as matching the design only to a degree. Using two-dimensional models and diagrams, however, does help to communicate the characteristics of specific programs and to promote understanding of particular approaches and combinations of those approaches. The models and designs also may be used to help plan for integrating curricula and disciplines.

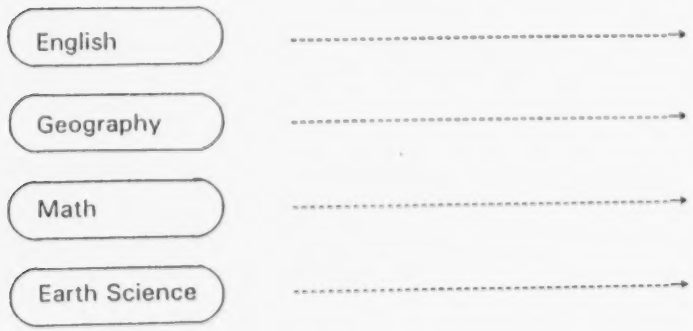
Other authors (Drake, 1993; Fogarty, 1991) have employed two-dimensional diagrams in describing the nature and extent of interdisciplinary and integrated curriculum designs. Fogarty identified ten different approaches to integrating curricula and provided pictorial diagrams to represent those approaches. The diagrams provided were very helpful for visualizing the various approaches to integration. However, the large number of possible variations for integration tended to make the task of interpreting differences somewhat difficult. Therefore, a set of six designs

are proposed and presented below that seems to simplify the task but, at the same time, serves to represent all of the basic approaches to treating the school disciplines that are practical for secondary schools as they currently exist. Beyond that, the approaches are mixed and implemented to varying degrees in different settings. The fewer number of pictorial models or diagrams enables better communication in discussions with parents, teachers and others, the approaches they are likely to encounter or wish to implement.

Curriculum Designs

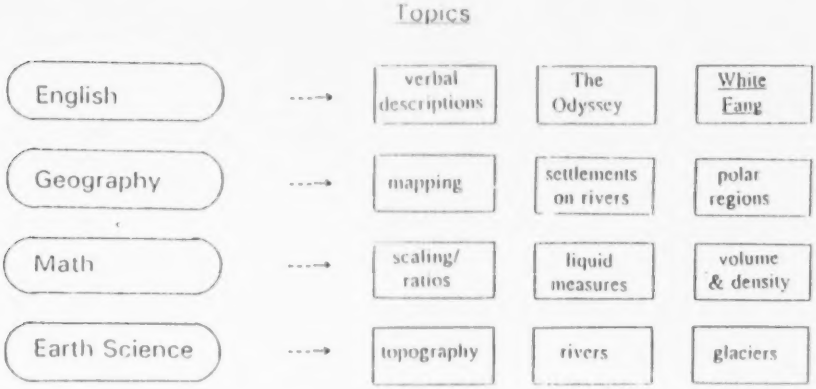
1. **Discipline-Based Design (Traditional)**

   Content is presented in separate time blocks during the school day without a deliberate attempt to show the relationships among the disciplines.



2. **Parallel Disciplines Design**

The content of the different disciplines is sequenced in certain ways with the hope that students will discover the implicit linkages.

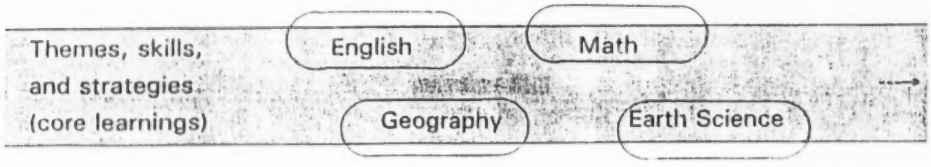


3. **Multidisciplinary Design**

Related disciplines are presented together in a unit or course structure to study a theme or issue and show the complementarity of the disciplines.

4. **Transdisciplinary (Across the Disciplines) Design**

The curriculum (themes, topics, skills, and strategies) transcends the disciplinary boundaries. The disciplines are transcended, but are embedded "naturally" within the general curriculum where the transdisciplinary interconnections are made.



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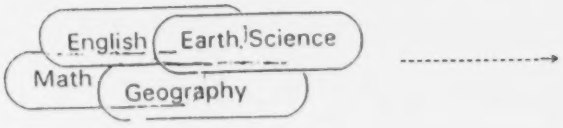
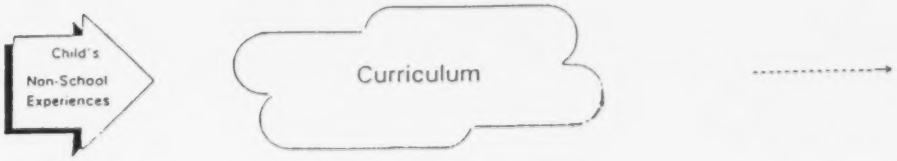
5. **Interdisciplinary Design (Integrated Curriculum)**

Units or courses of study from the various disciplines are deliberately presented together in ways to explicitly show the interconnectedness of the disciplines. Teachers may plan together and courses may be scheduled in blocks to show relatedness. Discipline boundaries are transcended and focus is on the commonalities across disciplines.



6. **Integrated-Day Design**

The learning experiences are designed around the interested, themes, problems, and questions from the students' experiences. The disciplines are not separated or delineated. This design is most commonly used in preschool and kindergarten programs.



Though the six models presented have sufficed to describe the curriculum designs as they relate to discipline integration that have been observed in local secondary schools, it is realized that other designs might exist. For example, the curriculum could be based entirely on the life experiences of the student such as in A. S. Neill's Summerhill. But such approaches are unlikely to exist to a large degree in schools having specific goals, mandates, and standards for specific time periods and programs.

Applying the Models to Real Settings

Most of the current activity for integrating the disciplines in secondary schools seems to be at the lower grade levels. This phenomenon may be due to the fact that the elementary and middle school curricula traditionally have been more integrated. Therefore, it is easier to transition into integrated curriculum at the lower grade levels of the high school and proceed upward as students who have experience learning in integrated approaches get to each subsequent grade level. It may also be easier to integrate the content of the more general curriculum content in the lower grade levels than to integrate the more specialized content of the disciplines at the upper grade levels.

At least three of the designs presented evolved in a single local high school after the ninth grade teachers were challenged by the school principal to develop and pilot non-traditional approaches to instruction. The initial effort was referred to as "teamed block instruction" and was designed to have the English, science, and social studies teachers function as interdisciplinary teams to provide instruction for students. Each teaching team was comprised of three teachers, one from each of the discipline areas. Each teacher was assigned between twenty and twenty-five students (the usual contingent of students), resulting in between 60 and 75 students per teaching team. For scheduling purposes, students were assigned to the classes of all three teachers in a particular interdisciplinary team for English, science, and social studies in consecutive class periods of the usual length (50 minutes).

Consequently, each team of teachers could use the aggregate 150-minute block of time as it wished in order to accomplish the objectives identified for each discipline and for the multi-discipline set. The manner in which the 150-minute block of time was used could change from day to day to accommodate various objectives and activities.

The members of each teacher team had a common planning time each day prior to the 150-minute teamed block instructional time. Eventually, each team discovered that it needed a large office or other area for planning as a group. The space and common planning time allowed a natural exchange of ideas and interdisciplinary planning which resulted in integrated curriculum, including content from each of the disciplines represented. Different approaches to integrating the disciplines emerged somewhat spontaneously in three different teacher teams. The teachers also learned about and tried to incorporate cooperative learning, authentic assessment, and other instructional techniques in their instruction during the teamed block instructional periods.

As they gained experience working together during the blocks of time, one team (Team A) used what it referred to as a parallel style of integration (Design #2) and the teachers focused on teaching content from their respective disciplines as they related to the other disciplines. Another team (Team B) tended to use an interdisciplinary design (Design #5) model for most of its teaching units. This team made special efforts to relate the disciplines to

one another and to obscure any boundaries that had existed among them.

A third team (Team C) utilized an approach that might be considered transdisciplinary (Design #4) because, in addition to giving attention to the specifies academic disciplines, the teachers focused on students' social needs and self-esteem. Objectives and activities concerning the social and personal needs and growth of the students cut across the disciplinary studies. Therefore, the team tended to place more emphasis on themes related to local and community issues. The approach adopted by this team may have evolved because the teamed served many students who were not performing well academically.

All three teams were challenged to collect data and information for determining their effectiveness and for making decisions about needed changes. Team B and Team C used a more extensive data gathering system than Team A. They used a post-unit reflection method which included having students list ideas for improving each instructional unit and then list facts/concepts/skills learned while engaged in the unit. Based on that student input, each Team of teachers made a list of problems and promises and revised the unit for the future. The team also made changes in the assessment rubric based on analyzing student reflections. As students gained experience with the approach, the teachers added a pre-unit activity to allow student input in designing some of the units. Team A used a less involved system for gathering student input. The team used a student survey

including items to be answered "yes" or "no" to solicit input and help make decisions.

After the first year, teachers were asked to respond to questions designed to get information for helping to evaluate the block approaches. Results were not separated for the different teams of teachers. The teachers indicated that they learned quite a bit about their colleagues' subjects or disciplines. They appreciated the flexibility provided to experiment with the longer periods of time. Most saw value in a more holistic approach to learning as was provided for students in the program. However, some also had reservations about how much actual knowledge of the subjects or disciplines had been gained by students, even though they believed the students gained leadership skills and developed socially and in affective areas.

Summary

The approaches to providing instruction covering the traditional disciplines of the contemporary high school curriculum can be represented by six models or designs based on content integration. The six designs can be used to plan and implement programs for curriculum integration or they can serve to help describe and compare integrative approaches that currently exist.

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